H1683

0057234

LIONVILLE LABORATORY INC.

4 January 2002

Joan Kessner
Bechtel-Hanford, Inc.
3190 Washington Way
MSIN H9-03
Richland, WA 99352

Subject: Contract No. 630
Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0201L860
SDG #	H1683
SAF #	B01-114
Date Received	1-25-02
# Samples	1
Matrix	Water
Volatiles	X
Semivolatiles	
Pest/PCB	
DRO/GRO	
GC Scan	
Metals	
Inorganics	

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

r:\group\pm\orlette\tnu-hanford\data\bc_ltr.doc

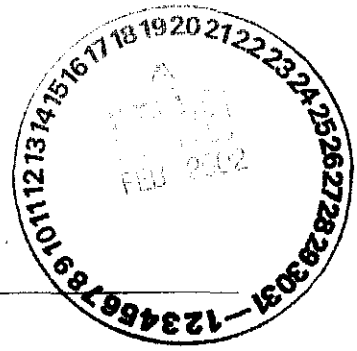
Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B01-114 H1683

RFW LOT # :0201L860

CLIENT ID	RFW #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
B13Y30	001	W	02LVG016	01/23/02	01/25/02	N/A	01/29/02
B13Y30	001 MS	W	02LVG016	01/23/02	01/25/02	N/A	01/29/02
B13Y30	001 MSD	W	02LVG016	01/23/02	01/25/02	N/A	01/29/02
LAB QC:							
VBLKIP	MB1	W	02LVG016	N/A	N/A	N/A	01/29/02
VBLKIP	MB1 BS	W	02LVG016	N/A	N/A	N/A	01/29/02

LIONVILLE LABORATORY INC.

Analytical Report



Client: TNU-HANFORD B01-114
LVL #: 0201L860
SDG/SAF #: H1683/B01-114

W.O. #: 11343-606-001-9999-00
Date Received: 01-25-02

GC/MS VOLATILE

One (1) water sample was collected on 01-23-02.

The sample and its associated QC samples were analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8260B for client specified Volatile target compounds on 01-29-02.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.

2. The required holding time for analysis was met.

3. Non-target compounds were detected in the sample.

4. All surrogate recoveries were within EPA QC limits.

5. All matrix spike recoveries were within EPA QC limits.

6. All blank spike recoveries were within EPA QC limits.

7. Internal standard area and retention time criteria were met.

8. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

by _____
J. Michael Taylor
President
Lionville Laboratory Incorporated

02-12-02
Date

pef\group\data\voa\tnu-hanford\0201-860.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 12 pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

GLOSSARY OF VOA DATA

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.

Volatiles By GC/MS, Special List — Report Date: 02/08/02 09:37

RFW Batch Number: **0201L860** — Client: **TNUHANFORD B01-114 H1683** Work Order: 11343606001 Page: 1a

	Cust ID:	B13Y30	B13Y30	B13Y30	VBLKIP	VBLKIP BS
Sample Information	RFW#:	001	001 MS	001 MSD	02LVG016-MB1	02LVG016-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate Recovery	Toluene-d8	100 %	97 %	95 %	100 %	93 %
	Bromofluorobenzene	110 %	105 %	102 %	109 %	106 %
	1,2-Dichloroethane-d4	120 %	114 %	114 %	100 %	104 %
Chloromethane		10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U
Methylene Chloride		5 U	5 J	4 J	5 U	5 U
Acetone		10 U	10 U	10 U	10 U	10 U
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		5 U	87 %	82 %	5 U	77 %
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U
Chloroform		5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U
2-Butanone		10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		5 U	5 U	5 U	5 U	5 U
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U
Trichloroethene		5 U	100 %	98 %	5 U	98 %
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U
Benzene		5 U	100 %	98 %	5 U	95 %
Trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U
Bromoform		5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U
Toluene		5 U	107 %	104 %	5 U	103 %

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0201L860 Client: TNUHANFORD B01-114 H1683 Work Order: 11343606001 Page: 1b

Cust ID:	B13Y30	B13Y30	B13Y30	VBLKIP	VBLKIP BS
RFW#:	001	001 MS	001 MSD	02LVG016-MB1	02LVG016-MB1
Chlorobenzene	5 U	101 %	97 %	5 U	97 %
Ethylbenzene	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U
N-butylbenzene	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B13Y30

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0201L860-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: q012914

Level: (low/med) LOW Date Received: 01/25/02

% Moisture: not dec. _____ Date Analyzed: 01/29/02

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 107313	METHYL FORMATE	4.700	50	NJ

FORM 1 VOA-TIC 1/87 Rev.

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLKIP

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 02LVG016-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: g012903

Level: (low/med) LOW Date Received: 01/29/02

% Moisture: not dec. _____ Date Analyzed: 01/29/02

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					

Lionville Laboratory Use Only
0201L860

Custody Transfer Record/Lab Work Request

Page 1 of 1

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FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

A-C

Client: TNU-Hanford B01-114

Est. Final Proj. Sampling Date

Project #: 11343-606-001-9999-00

Project Contact/Phone #

Lionville Laboratory Project Manager: OJ

QC: SPEC   Del: STD   TAT: 30 days

Date Rec'd: 1-25-02   Date Due: 2-24-02

Refrigerator #		1
#/Type Container	Liquid	3g
	Solid	Ø
Volume	Liquid	40
	Solid	
Preservatives		HCL / H2SO4

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

MATRIX CODES:
- S - Soil
- SE - Sediment
- SO - Solid
- SL - Sludge
- W - Water
- O - Oil
- A - Air
- DS - Drum Solids
- DL - Drum Liquids
- L - EP/TCLP Leachate
- WI - Wipe
- X - Other
- F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA (0624X)
001	B13Y30	X	X	W	1/23/02	1700	X

Special Instructions: SAF # B01-114

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Lionville Laboratory Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # 4235 7965 0556
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Samples Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

Tamper Resistant Seal was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 4.3 °C

Relinquished by	Received by	Date	Time
Fed Ex	D. [signature]	1/25/02	0955

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B01-114-44	Page 1 of 1
Collector: Renee Nielson / Fahlberg	Company Contact: Virginia Rohay; Telephone No.: 372-9100	Project Coordinator: TRENT, SJ	Price Code: 7N; Data Turnaround: 45 Days
Project Designation: PFP Well Installation Sampling and Analysis - Water	Sampling Location: 200 West	SAF No.: B01-114	Air Quality ☐
Ice Chest No.: ERC-01-014	Field Logbook No.: EL-1562; COA: T20ZP1D722	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: A0200091	Bill of Lading/Air Bill No.: 42357955-0556	

POSSIBLE SAMPLE HAZARDS/REMARKS

Samples did not originate in radiological controlled area. No total activity associated with sample/samples. RT 1.24.02

Special Handling and/or Storage

Preservation	HCl or H2SO4 to pH <2 Coo										
Type of Container	aGs*										
No. of Container(s)	3										
Volume	40mL										
SAMPLE ANALYSIS	VOA - 8260A (TCL); VOA - 8260A (Add-On) (n-Butylbenzene)										
Sample No.	Matrix *	Sample Date	Sample Time								
B13Y30	WATER	1-23-02	1700	X							

CHAIN OF POSSESSION

Relinquished By / Date/Time	Received By / Date/Time
R. Nielson 1/24/02 0955	Stored in Ref #2C 1/24/02 0955
Removed from Ref 2C 3728 1.24.02 0800	R Thorey 1.24.02 0800
R Thorey ERC 1.24.02 0800	FEDEX
Fed Ex 1-25-02 0955	D. Amo 1-25-02 0955

SPECIAL INSTRUCTIONS

Samples stored in Ref.# 2C at the 3728 Shipping Facility on 1/24/02 Collector not available to relinquish samples on 1/24/02 for shipment.

RT 1.24.02

Matrix *: S=Soil; SD=Sediment; SO=Solid; SL=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

Figure 1. Sample Check-in List

Date/Time Received: 1.25.02 0955

SDG#: 02011860

Work Order Number: _____ SAF# B01-114

Shipping Container ID: ERC 01 014 Chain of Custody # B01-114 .44

1. Custody Seals on shipping container intact? Yes [✓] No [ ]
2. Custody Seals dated and signed? Yes [✓] No [ ]
3. Chain-of-Custody record present? Yes [✓] No [ ]
4. Cooler temperature 4.3°
5. Vermiculite/packing materials is Wet [ ] Dry [✓]
6. Number of samples in shipping container: 3
7. Sample holding times exceeded? Yes [ ] No [✓]

8. Samples have:
   - ✓ tape
   - ✓ custody seals 1.25.02
   - ____ hazard labels
   - ____ appropriate sample labels

9. Samples are:
   - ✓ in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles

10. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: _____ Date: _____

Telephoned to: _____ On _____ By _____